

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS-441(44) & EDS-441(45) Morgan/Putnam
P. I. Nos.: 222570 & 222580
U.S. 441/S.R. 44 Widening and Reconstruction

OFFICE: Engineering Services

DATE: April 17, 2008

FROM: Brian Summers, P.E., Project Review Engineer *REN*

TO: Babs Abubakari, P.E. State Consultant Design and Program Delivery Engineer

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
EDS-441(45)				
ROADWAY (RD)				
RD-1	Reduce median width to 32' to reduce Right of Way	\$512,862	Yes	This should be done.
RD-4	Re-align roadway to reduce required Right of Way	\$93,688 (proposed) \$31,226 (actual)	Yes	This will be done from Sta. 330+00 to Sta. 430+00 but will not be done from Sta. 700+00 to 750+00 due to Environmental impacts.
RD-5	Utilize Right of Way for Sediment Basins	Design Suggestion	No	Would result in Utility conflicts since the Sediment Basin would be located where proposed Utilities would be located.
RD-6	Utilize Right of Way to consolidate driveways	Design Suggestion	No	This would affect the property owner's ability to have a direct access to the mainline and could result in a negative impact to the property values.

ALT No.	Description	Savings PW & LCC	Implement	Comments
ROADWAY (RD) - continued				
RD-7	Use RAP from existing roadway	\$1,185,638	Yes	This should be done.
RD-8	Retain existing pavement	\$373,111	Yes	This should be done where feasible.
RD-10	Relocate harmony Road to minimize new construction	\$255,200	No	Would result in additional impacts to the Terrell-Sadler Historic House.
RD-11	Adjust the Bethel Church Road alignment to enhance the safety of traffic operations	Design Suggestion	Yes	This should be done.
RD-12	Adjust the Price Road alignment to enhance the safety of traffic operations	Design Suggestion	Yes	This should be done.
EARTHWORK (EW)				
EW-1	Vertically bifurcate the roadway to reduce earthwork	\$591,800	Yes	This should be done where feasible.
EW-2	Adjust fore slopes to reduce earthwork and Right of Way	\$504,616	Yes	This should be done.
EW-3	Adjust vertical alignment to reduce Borrow Excavation	\$317,900	Yes	This should be done where feasible.
DRAINAGE (DR)				
DR-1	Route median drains to downstream side of the road	Design Suggestion	Yes	This should be done where feasible.
DR-2	Reduce/consolidate Sediment Basins , i.e., Sta. 435+00	Design Suggestion	Yes	This should be done.
DR-3	Modify Right of Way to accommodate outfall maintenance	Design Suggestion	Yes	This should be done.
DR-4	Re-evaluate the elimination of outfalls	Design Suggestion	Yes	This should be done where feasible.

ALT No.	Description	Savings PW & LCC	Implement	Comments
DRAINAGE (DR) - continued				
DR-5	Reduce cross drains	Design Suggestion	Yes	This should be done where feasible.
EDS-441(44)				
ROADWAY (RD)				
RD-31	Re-align roadway to reduce required Right of Way	\$97,144	No	Would affect almost 14,000' of roadway which would cause a major redesign effort that would require additional Environmental documentation and would impact the FY 2009 Right of Way schedule.
RD-32	Reduce median width to 32' to reduce Right of Way	\$441,259	Yes	This should be done.
RD-35	Utilize Right of Way for Sediment Basins	Design Suggestion	No	Would result in Utility conflicts since the Sediment Basin would be located where proposed Utilities would be located.
RD-36	Utilize Right of Way to consolidate driveways	Design Suggestion	No	This would affect the property owner's ability to have a direct access to the mainline and could result in a negative impact to the property values.
RD-37	Use RAP from existing roadway	\$1,051,022	Yes	This should be done.
RD-38	Retain existing pavement	\$797,714	Yes	This should be done where feasible.
RD-40	Extend five lanes with shoulders to Sta. 476+00	Design Suggestion	Yes	This should be done.
RD-42	Re-design Seven Island Road intersection	Design Suggestion	Yes	This should be done.
EARTHWORK (EW)				
EW-31	Vertically bifurcate the roadway to reduce earthwork	\$433,950	Yes	This should be done where feasible.

ALT No.	Description	Savings PW & LCC	Implement	Comments
EARTHWORK (EW) - continued				
EW-32	Adjust fore slopes to reduce earthwork and Right of Way	\$370,041	Yes	This should be done.
EW-33	Reduce vertical alignment to reduce earthwork	\$173,800	Yes	This should be done where feasible.
DRAINAGE (DR)				
DR-31	Route median drains to downstream side of the road	Design Suggestion	Yes	This should be done where feasible.
DR-32	Reduce/consolidate Sediment Basins	Design Suggestion	Yes	This should be done.
DR-33	Modify Right of Way to accommodate outfall maintenance	Design Suggestion	Yes	This should be done.
DR-34	Re-evaluate the elimination of outfalls	Design Suggestion	Yes	This should be done where feasible.
DR-35	Re-evaluate the alignment of cross drains	Design Suggestion	Yes	This should be done where feasible.

A meeting was held on March 14, 2008 to discuss the above recommendations. Jim Graybeal and Curtis Dirton with PB World, Stanley Hill and Otis Clark with Consultant Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Additional information was provided by the Design Consultant on March 17, 2008.

Approved:  Date: 4/21/08
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

EDS-441(44) & EDS-441(45) Morgan/Putnam

P. I. Nos.: 222570 & 222580

VE Study Implementation

Page 5.

c: Gus Shanine
Todd Long
Stanley Hill
Otis Clark
Rusty Merritt
Lynn Bean
Bryan Gibbs
James Magnus
Ken Werho
Nabil Raad
Larry Bowman
Lisa Myers



Preconstruction Status Report By PI Number

Print Date: 04/17/2008

PROJ ID	COUNTY	DESCRIPTION	MGMT. ROW DATE	SCHED DATE	MGMT. LET DATE
222570-	Morgan	SR 24/US 441 FM THE PUTNAM CL TO N OF CR 121PIERCE DAIRY RD	May-09	Sep-10	May-11
EDS00-0441-00(044)	FIELD DIST: 2				
TIP #:	TWIN:	US: 441	Phase	Approved	Proposed
MPO: Not Urban	EST DATE: 11/15/2007		PE	1995	1995
MODEL YR:			PE	2002	2002
PROJ MGR: Clark, Otis	PROJ LENGTH: 8.05		PE	2002	2002
PROG Reconstruction/Rehabili	TYPE Widening		ROW	2009	2009
TYPE: tation	WORK:		CST	LR	LR
CONCEPT: ADD 4R	LET RESP: DOT	Congressional		10	

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACT/EST FINISH	PCT	DISTRICT COMMENTS
		Define Project Concept	12/15/1995	1/15/2006	100	1/10/01 Concept rvsd & apprvd;
		Concept Meeting	6/20/1996	6/20/1996	100	eliminate I-20 interchange & 20'
		Concept Submittal and Review	3/25/1997	3/25/1997	100	med 3/6/03 Util est of \$14.220
		Receive Preconstruction Concept Approval	4/2/1997	4/2/1997	100	8/28/03 Envir approved by 12-03
		Management Concept Approval Complete	6/19/1997	1/10/2001	100	2/9/04 Envir doc to FHWA by
4/30/2008	5/6/2008	Value Engineering Study	3/23/2007		97	3-04 4/5/05 PIOH 10/2/07
		Public Information Open House Held	4/5/2005	4/5/2005	100	PHOH at Rock Eagle
4/24/2008	4/24/2008	Environmental Approval	1/1/2002		100	
2/27/2009	2/27/2009	Public Hearing Held	10/2/2007	10/2/2007	100	
		Mapping	2/11/2002	2/26/2002	100	
		Field Surveys/SDE	4/1/2002	10/1/2002	100	
		Preliminary Plans	10/14/2002	2/15/2007	100	
4/25/2008	5/30/2008	Underground Storage Tanks			0	
4/25/2008	9/11/2008	404 Permit Obtainment			0	
		PFPR Inspection	3/27/2007	3/28/2007	100	
4/25/2008	7/17/2008	R/W Plans Preparation	2/15/2007		84	
9/12/2008	9/17/2008	R/W Plans Final Approval			0	
5/23/2008	5/27/2008	L & D Report Development and Approval			0	
9/18/2008	7/29/2010	R/W Acquisition			0	
2/10/2009	2/23/2009	Stake R/W			0	
		Soil Survey	9/8/2004	2/4/2005	100	
5/28/2008	2/4/2009	Final Design			0	
2/26/2009	2/27/2009	FFPR Inspection			0	
3/13/2009	3/26/2009	FFPR Response			0	

BIKE PROVISIONS INCLUDED?: Y MEASUREMENT SYSTEM: E CONSULTANT: C UT EST: \$ 711,000.00

PDD: BOND. CONCEPT & PAR TOGETHER. NEED 01 CONSULTANT. 10/9/98.
 Bridge: NO BRIDGE REQUIRED
 Design: OC/PBQD/CONTRACT EXPIRED/STOP WORK NOTICE GIVEN
 EIS: EA\Apvd6.7.07\FonsiNotApvd\NotOnSchedROW\Pugh02.14.08
 LGPA: MORGAN REF DO UTILITIES 2-15-96\RESCISSION LETTER SENT TO MORGAN 6-3-05.
 Programming: BR ID# 211-0003-0\#1 10-02\# 12-02. RRB ROW funds for \$6.797M were converted to H050\#3 3-08
 Traffic Op: CAH\SND CNSLTNT PLNS FR REVW\030801\\$\+PFPR sent 3/02/07 w/r
 Utility: (JL) NEED 2ND SUB PLANS 2/13/08
 EMG: 2058 (H85(94)-W/V88); DOT=M/S;D=CONSULT(PBQD)
 Conceptual Design: FFERRED TO OCD FOR DGN; PHOH RESPONSES NEEDED - 02-27-08

R/W INFORMATION:

PREL PARCEL CT: 90 TOTAL PARCEL CT: ACQUIRED BY: DOT ACQ MGR:
 UNDER-REVIEW CT: RELEASED CT: OPT-PEND CT: DEEDS CT: COND-PEND CT: COND-FILED CT:
 RW CERT DT: ACQUIRED CT: RELOCATION CT:



Preconstruction Status Report By PI Number

Print Date: 04/17/2008

PROJ ID	COUNTY	DESCRIPTION	MGMT. ROW DATE	SCHED DATE	MGMT. LET DATE
222580-	Putnam	SR 24/US 441 FM EATONTON BP @ S OF SHERWOOD AVE TO MORGAN CL	Mar-09	Jul-11	Mar-11
EDS00-0441-00(045)	FIELD DIST: 2				
TIP #:	TWIN:	US: 441	Phase	Approved	Proposed
MPO: Not Urban	EST DATE: 11/15/2007		PE	1995	1995
MODEL YR:			PE	2002	2002
PROJ MGR: Clark, Otis	PROJ LENGTH: 9.19		ROW	2008	2008
PROG Reconstruction/Rehabili	TYPE Widening		ROW	2009	2009
TYPE: tation	WORK:		ROW	2006	2006
CONCEPT: ADD 4R(MED 44)	LET RESP: DOT		CST	2006	2006
			LR	10	29,448,000.00
					L050 PRECST

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACT/EST FINISH	PCT	DISTRICT COMMENTS
		Define Project Concept	12/15/1995	12/18/2000	100	3/5/03 Util est=\$464,118
		Concept Meeting	6/20/1996	6/20/1996	100	8/28/03 Envir approved by 12-03
		Concept Submittal and Review	3/25/1997	3/25/1997	100	2/9/04 Envir doc should be
		Receive Preconstruction Concept Approval	4/2/1997	4/2/1997	100	submitted to FHWA by 3-04
		Management Concept Approval Complete	12/18/2000	1/10/2001	100	4/5/05 PIOH 10/2/07 PHOH at
4/30/2008	5/6/2008	Value Engineering Study	3/23/2007		97	Rock Eagle
		Public Information Open House Held	4/5/2005	4/5/2005	100	
4/24/2008	4/24/2008	Environmental Approval	10/15/2000		100	
2/27/2009	2/27/2009	Public Hearing Held	10/2/2007	10/2/2007	100	
		Mapping	2/11/2002	2/26/2002	100	
		Field Surveys/SDE	4/1/2002	10/14/2002	100	
7/18/2008	7/17/2008	Preliminary Plans	10/14/2002		96	
4/30/2008	4/29/2008	Underground Storage Tanks	2/12/2007		99	
4/25/2008	9/11/2008	404 Permit Obtainment			0	
		PFPR Inspection	4/19/2007	4/19/2007	100	
8/15/2008	11/6/2008	R/W Plans Preparation			0	
1/2/2009	1/7/2009	R/W Plans Final Approval			0	
8/15/2008	8/19/2008	L & D Report Development and Approval			0	
1/8/2009	5/5/2011	R/W Acquisition			0	
7/14/2009	7/27/2009	Stake R/W			0	
		Soil Survey	6/25/2004	2/18/2005	100	
8/20/2008	4/29/2009	Final Design			0	
5/21/2009	5/22/2009	FFPR Inspection			0	
6/5/2009	6/18/2009	FFPR Response			0	

BIKE PROVISIONS INCLUDED?: Y MEASUREMENT SYSTEM: E CONSULTANT: C UT EST: \$ 411,000.00

PDD: BOND. CONCEPT & PAR TOGETHER. FY01 RD DES CONSULTANT. 9/30/99. Air Quality Non-Attainment Area. 1/12/05.

Bridge: NO BRIDGE REQUIRED

Design: OC/PBQD/CONTRACT EXPIRED/STOP WORK NOTICE GIVEN

EIS: EA\Apvd6.7.07\FonsiNotApvd\NotOnSchedROW\Pugh02.14.08

LGPA: NOTIFICATION LETTER SENT TO EATONTON & PUTNAM 3-28-05.

Prog. Develop: RRB ROW \$6M & CST \$18.831 converted to H050.

Programming: #1 10-02|#2 12-02|RW LS 0006205 ADV ACQ \$83K|#3 9-07

Traffic Op: CAH|SND CNSLTNT PLNS FR REVW|030801|\$?:PFPR sent 3/26/07 w/r

Utility: (JL) NEED 2ND SUB PLANS (2/12/08)

EMG: 2058 (H85(94)-W/V88); DOT=M/S, D=(PBQD)

Conceptual Design: REFERRED TO OCD FOR DGN; PHOH RESPONSES NEEDED - 02-27-08

R/W INFORMATION:


PREL PARCEL CT: 80 TOTAL PARCEL CT: 1 ACQUIRED BY: DOT ACQ MGR: Hollie, Renee

UNDER-REVIEW CT: 0 RELEASED CT: 1 OPT-PEND CT: 0 DEEDS CT: 1 COND-PEND CT: 0 COND-FILED CT: 0

RW CERT DT: ACQUIRED CT: 1 RELOCATION CT: 1

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS-441(45), Putnam County
SR 24/US 441 from Eatonton BP to Morgan CL
P.I. No. 222580
OFFICE: Consultant Design
DATE: February 11, 2008
FROM:  Mohammed (Babs) Abubakari, P.E., State Consultant Design and Program Delivery Engineer
TO: Brian Summers, P.E., State Project Review Engineer
SUBJECT: **Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study- Final Report dated September 25, 2007 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Recommendation No. RD-1** – Reduce median width to 32' to reduce Right of Way, Initial Cost Savings (\$512,862).
 - *Approval of the VE Recommendation No. RD-1 is recommended. Design elements will be adjusted accordingly to utilize a 32' median. This will require additional design efforts which will reduce the estimated cost savings.*
2. **Value Engineering Recommendation No. RD-4** – Realign roadway to reduce required Right-of-Way, Initial Cost Savings (\$93,688).
 - *Approval of the VE Recommendation No. RD-4 is recommended between stations 330+00 to 430+00 and not recommended between stations 700+00 to 750+00.*

We concur with station 330+00 to 430+00 recommendation which has an initial cost saving of \$62,462. We do not concur with the recommendation at stations 700+00 to 750+00, due to possible environmental impacts to cemetery located at station 730+50 resulting in a cost saving of \$31,226.

3. **Value Engineering Design Suggestion No. RD-5** – Utilize Right-of-Way for sedimentation basins.
 - *Approval of the VE Design Suggestion No. RD-5 is not recommended. Utility relocations during construction are placed inside of the required right of way. The construction of the sediment basins inside the R/W would conflict with these relocations and causes delay and additional cost to the*

project. Sediment Basins will be placed on Temporary Easement outside the R/W and removed after construction.

4. **Value Engineering Design Suggestion No. RD-6** – Utilize Right-of-Way to consolidated driveways.
 - *Approval of the VE Design Suggestion No. RD-6 is not recommended. Right-of-way acquisition and property value is affected by not providing each property owner an individual driveway. A negative impact to property value may occur due to no direct access to US 441. Also the corridor is not a limited access and the divided roadway provides for right-in and right- out drive movements where the driver only has to look in one direction for safer ingress and egress. Consolidation of driveways is not recommended.*
5. **Value Engineering Recommendation No. RD-7** – Use RAP from existing roadway, Initial Cost Savings (\$1,185,638).
 - *Approval of the VE Recommendation No. RD-7 is recommended. As part of final plans, all asphalt pay items will specify recycled asphalt pavement.*
6. **Value Engineering Recommendation No. RD-8** – Retain existing pavement. Roadway, Initial Cost Savings (\$373,111).
 - *Approval of the VE Recommendation No. RD-8 is recommended where supported by an existing pavement evaluation.*
7. **Value Engineering Recommendation No. RD-10** – Relocate Harmony Rd. to minimize new construction/pond, Initial Cost Savings (\$255,200).
 - *Approval of the VE Recommendation No. RD-10 is not recommended. Due to environmental constraints and impacts associated with the Historic Terrell-Sadler House both visually and audibly the proposed re-alignment shall be maintained.*
8. **Value Engineering Design Suggestion No. RD-11** – Adjust the Bethel Church Road alignment to enhance the safety of traffic.
 - *Approval of the VE Design Suggestion No. RD-11 is recommended. We concur with this recommendation, existing Bethel Church Road / US 441 intersection shall be cul-de-sac and a roadway segment re-aligned to form a new Bethel Church Road / US 441 intersection. Pavement south of historical boundary along Bethel Church Road shall be obliterated.*
9. **Value Engineering Design Suggestion No. RD-12** – Adjust the Price Road alignment to enhance the safety of traffic operations.
 - *Approval of the VE Design Suggestion No. RD-12 is recommended. Proposed new re-aligned Price Road / US 441 intersection shall be retained. A section of existing Price Road shall be cul-de-sac as*

recommended. A new tie-in shall be constructed to re-aligned Price Road using a 90 degree alignment to form a new intersection.

10. **Value Engineering Recommendation No. EW-1** – Vertically bifurcate the roadway to reduce earthwork, Initial Cost Savings (\$591,800).
 - *Approval of the VE Recommendation No. EW-1 is recommended in the horizontal curves where a median cross-over is proposed. However it is not recommended to bifurcate the vertical profiles in other areas because this requires steeper median slopes to be constructed creating difficulty in draining the median with regards to shifting the ditch, modifying the inlet structures and providing minimum cover over the drain pipes.*
11. **Value Engineering Recommendation No. EW-2** – Adjust fore slopes to reduce earthwork and Right-of-Way, Initial Cost Savings (\$504,616).
 - *Approval of the VE Recommendation No. EW-2 is recommended. 6:1 front slopes will be utilized in the median and 4:1 slopes will be utilized on the outside.*
12. **Value Engineering Recommendation No. EW-3** – Reduce vertical alignment to reduce earthwork, Initial Cost Savings (\$317,900).
 - *Approval of the VE Recommendation No. EW-3 is recommended in some of the Station ranges listed where it will have minimal effects on the other design elements. However it is not recommended in all areas listed until a detail study of the profile can be completed to determine side road and cross road tie-ins, drainage requirements associated with pipe sizes and outfalls and staging constraints.*
13. **Value Engineering Design Suggestion No. DR-1** – Route median drains to downstream side of road.
 - *Approval of the VE Design Suggestion No. DR-1 is recommended. All proposed drainage structures shall be re-evaluated and routed to the downstream side of the roadway as appropriate for construction or as required to stage construct project without diverting the runoff to other areas.*
14. **Value Engineering Design Suggestion No. DR-2** – Reduce/consolidate sediment basins 435+00.
 - *Approval of the VE Design Suggestion No. DR-2 is recommended. Sediment basins in the area of station 435+00 will be consolidated.*
15. **Value Engineering Design Suggestion No. DR-3** – Modify ROW to accommodate outfall maintenance.
 - *Approval of the VE Design Suggestion No. DR-3 is recommended. Required right of way will be modified to accommodate outfall maintenance.*

16. Value Engineering Design Suggestion No. DR-4 – Re-evaluate elimination of outfalls.

- *Approval of the VE Design Suggestion No. DR-4 is recommended.
All proposed drainage structures shall be re-evaluated and outfalls eliminated where applicable without diverting the runoff to other areas.*

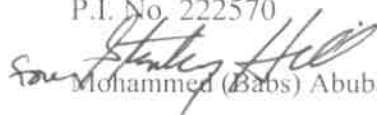
17. Value Engineering Design Suggestion No. DR-5 – Reduce cross drains.

- *Approval of the VE Design Suggestion No. DR-5 is recommended.
All proposed drainage structures shall be re-evaluated and cross drains eliminated where applicable.*

Rec'd 2/11/08

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS-441(44), Putnam County
SR 24/US 441 from Morgan CL to I-20
P.I. No. 222570
OFFICE: Consultant Design
DATE: February 11, 2008
FROM:  Mohammed (Babs) Abubakari, P.E., State Consultant Design and Program Delivery Engineer
TO: Brian Summers, P.E., State Project Review Engineer
SUBJECT: **Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study- Final Report dated September 25, 2007 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Recommendation No. RD-31** – Realign roadway to reduce required Right-of-Way, Initial Cost Savings (\$97,144).
 - *Approval of the VE Recommendation No. RD-31 is not recommended. This recommendation results in significantly redesigning 14,000 feet roadway with additional environmental documentation required. The cost of this effort will greater reduce the estimated cost savings and extend the project schedule. Also several public information meetings have been held informing the citizens along the project of how their property would be impacted.*
2. **Value Engineering Recommendation No. RD-32** – Reduce median width to 32' to reduce Right-of-Way, Initial Cost Savings (\$441,259).
 - *Approval of the VE Recommendation No. RD-32 is recommended. Design elements shall be adjusted accordingly to utilize a 32' median. This will require additional design efforts which will reduce the estimated cost savings.*
3. **Value Engineering Design Suggestion No. RD-35** – Utilize Right-of-Way for sedimentation basins.
 - *Approval of the VE Design Suggestion No. RD-35 is not recommended. Utility relocations during construction are placed inside of the required right of way. The construction of the sediment basins inside the R/W would conflict with these relocations and causes delay and additional cost to the project. Sediment Basins will be placed on Temporary Easement outside the R/W and removed after construction.*

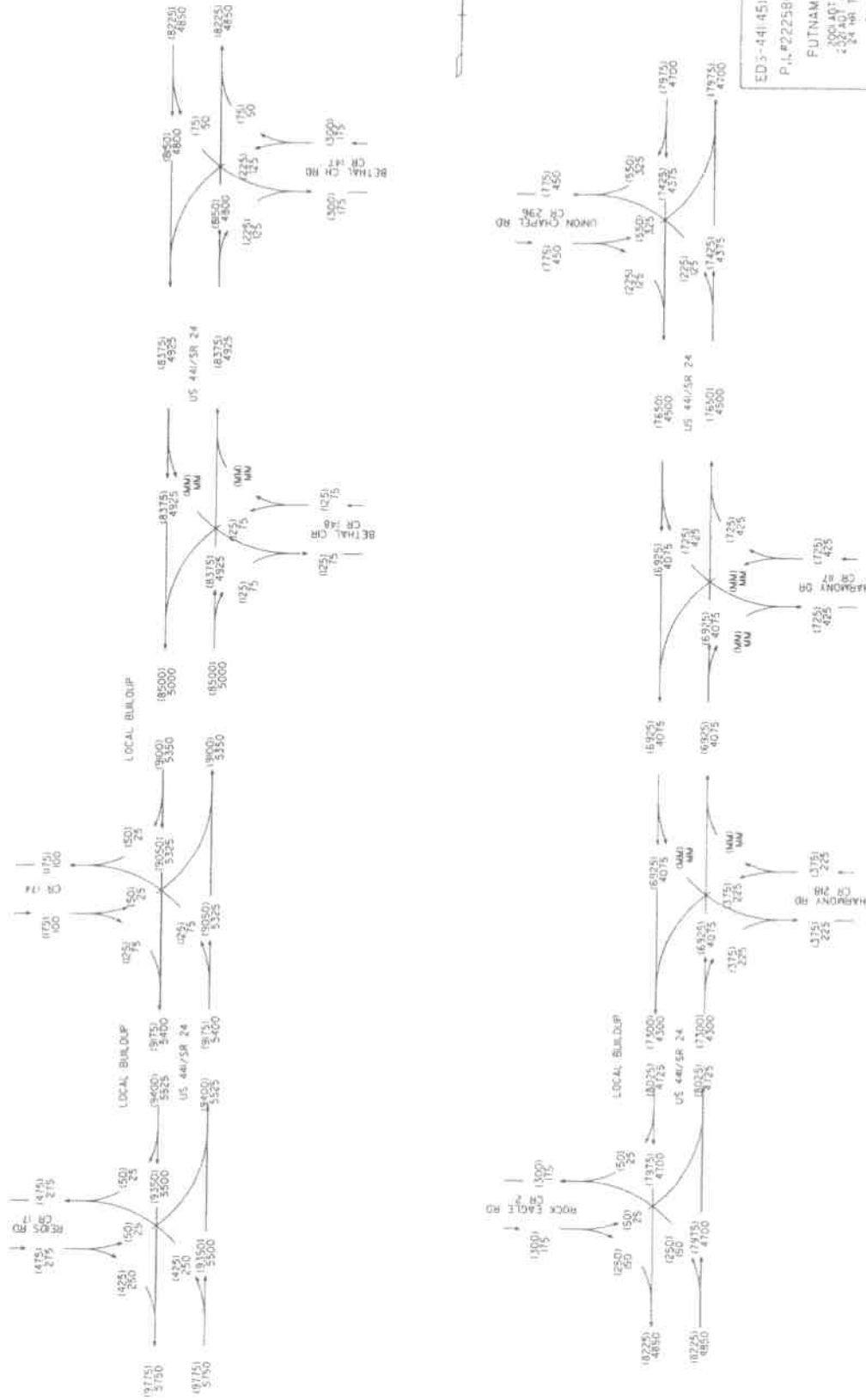
4. **Value Engineering Design Suggestion No. RD-36** – Utilize Right-of-Way to consolidate driveways.
 - *Approval of the VE Design Suggestion No. RD-36 is not recommended. Right-of-way acquisition and property value is affected by not providing each property owner an individual driveway. A negative impact to property value may occur due to no direct access to US 441. Also the corridor is not a limited access and the divided roadway provides for right-in and right-out drive movements where the driver only has to look in one direction for safer ingress and egress. Consolidation of driveways is not recommended.*
5. **Value Engineering Recommendation No. RD-37** – Use RAP from existing roadway, Initial Cost Savings (\$1,051,022).
 - *Approval of the VE Recommendation No. RD-37 is recommended. As part of final plans, all asphalt pay items will specify recycled asphalt pavement.*
6. **Value Engineering Recommendation No. RD-38** – Retain existing pavement, Initial Cost Savings (\$797,714).
 - *Approval of the VE Recommendation No. RD-38 is recommended where supported by an existing pavement evaluation.*
7. **Value Engineering Design Suggestion No. RD-40** – Extend five lanes with shoulders to station 476+00.
 - *Approval of the VE Design Suggestion No. RD-40 is recommended. We concur with extending a five lane section of roadway to station 476+00.*
8. **Value Engineering Design Suggestion No. RD-42** – Re-design Seven Island Rd. intersection.
 - *Approval of the VE Design Suggestion No. RD-42 is recommended. Seven Island Road intersection will be redesigned to improve the 60 degree intersection angle.*
9. **Value Engineering Recommendation No. EW-31** – Vertically bifurcate the roadway to reduce earthwork, Initial Cost Savings (\$433,950).
 - *Approval of the VE Recommendation No. EW-31 is recommended in the horizontal curves where a median cross-over is proposed. However it is not recommended to bifurcate the vertical profiles in other areas because this requires steeper median slopes to be constructed creating difficulty in draining the median with regards to shifting the ditch, modifying the inlet structures and providing minimum cover over the drain pipes.*

10. **Value Engineering Recommendation No. EW-32** – Adjust fore slopes to reduce earthwork and Right-of-Way, Initial Cost Savings (\$370,041).
 - *Approval of the VE Recommendation No. EW-32 is recommended.*
6:1 front slopes will be utilized in the median and 4:1 slopes will be utilized on the outside.
11. **Value Engineering Recommendation No. EW-33** – Reduce vertical alignment to reduce earthwork, Initial Cost Savings (\$173,800).
 - *Approval of the VE Recommendation No. EW-33 is recommended in some of the Station ranges listed where it will have minimal effects on the other design elements. However it is not recommended in all areas listed until a detail study of the profile can be completed to determine side road and cross road tie-ins, drainage requirements associated with pipe sizes and outfalls and staging constraints.*
12. **Value Engineering Design Suggestion No. DR-31** – Route median drains to downstream side of roadway.
 - *Approval of the VE Design Suggestion No. DR-31 is recommended*
All proposed drainage structures shall be re-evaluated and routed to downstream side of roadway as appropriate for construction or as required to stage construct project without diverting the runoff to other areas.
13. **Value Engineering Design Suggestion No. DR-32** – Reduce/consolidate sediment basins.
 - *Approval of the VE Design Suggestion No. DR-32 is recommended.*
Sediment basins will be consolidated.
14. **Value Engineering Design Suggestion No. DR-33** – Modify Right-of-Way to accommodate outfall maintenance.
 - *Approval of the VE Design Suggestion No. DR-33 is recommended.*
Required right of way will be modified to accommodate outfall maintenance.
15. **Value Engineering Design Suggestion No. DR-34** – Re-evaluate the elimination of outfalls.
 - *Approval of the VE Design Suggestion No. DR-34 is recommended*
All proposed drainage structures shall be re-evaluated and outfalls eliminated where applicable without diverting the runoff to other areas.

16. Value Engineering Design Suggestion No. DR-35 – Re-evaluate the alignment of cross drains.

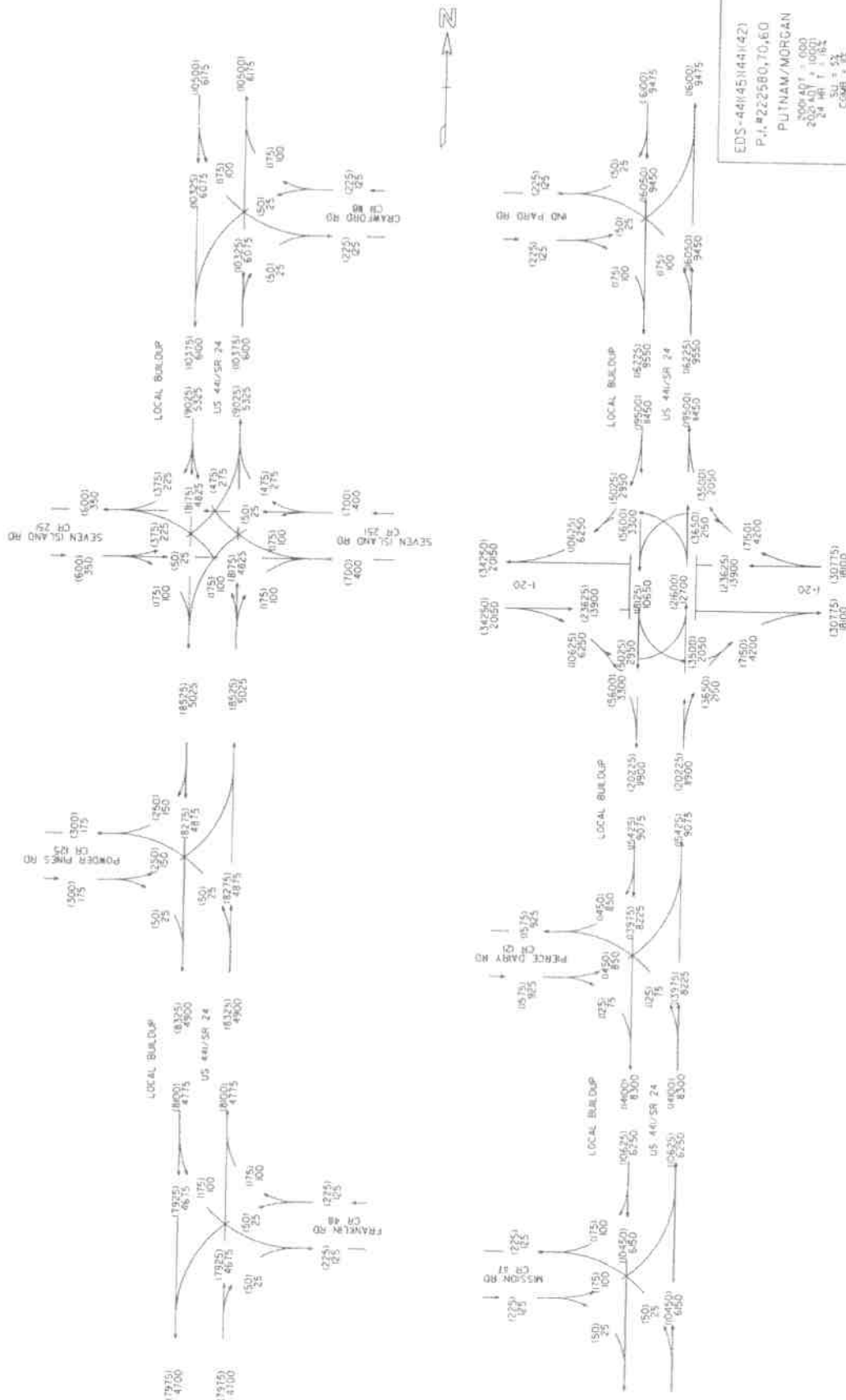
- *Approval of the VE Design Suggestion No. DR-35 is recommended
All proposed drainage structures shall be re-evaluated and cross drains eliminated where applicable.*

1 OF 6



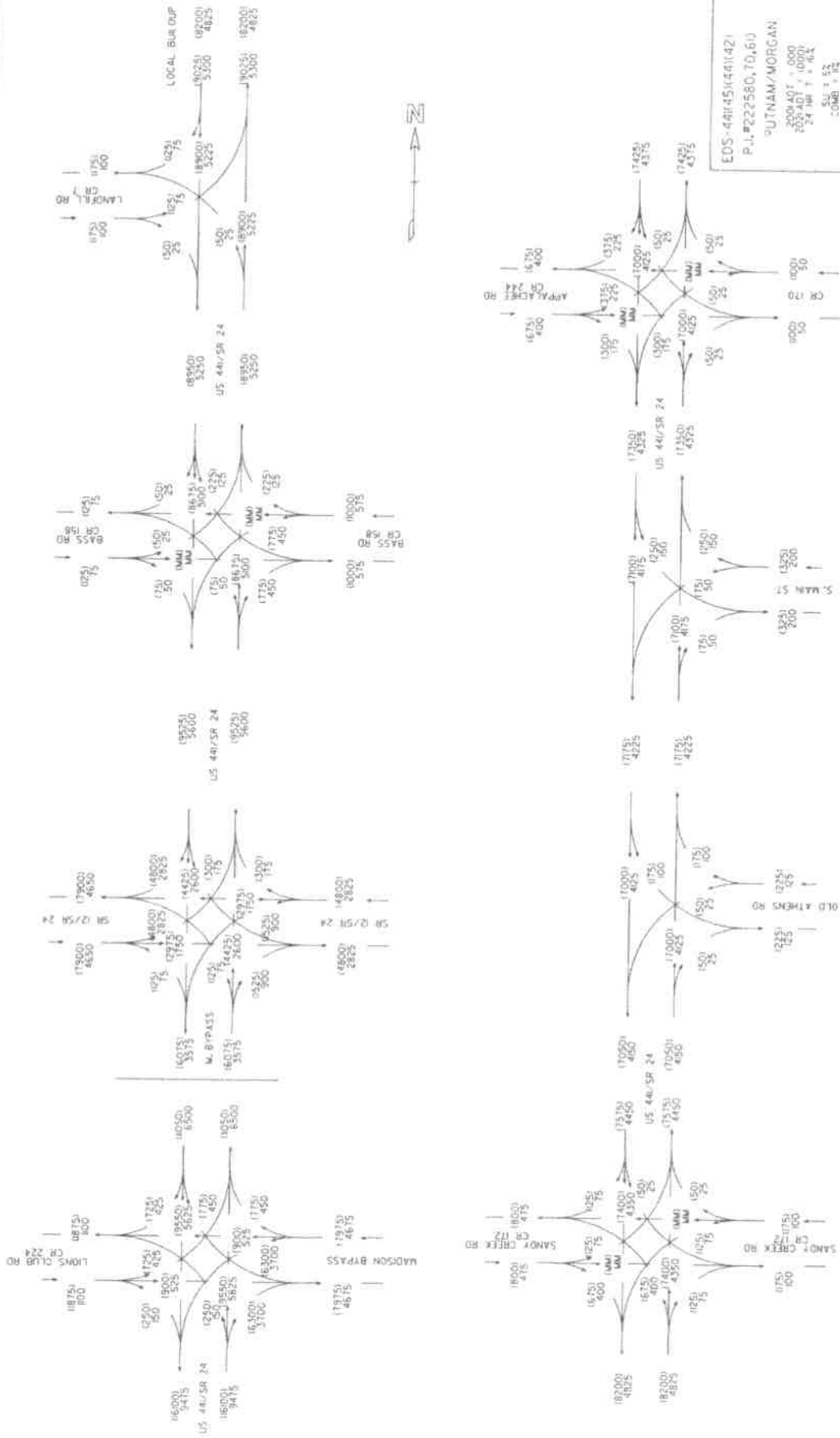
EDS-44(45)(4)(42)
P.L.#222580,70,60
FUTNAM/MORGAN
300' x 100'
24' x 100'
24' x 100'
SU = 52
CONR = 75

JCC 2/95



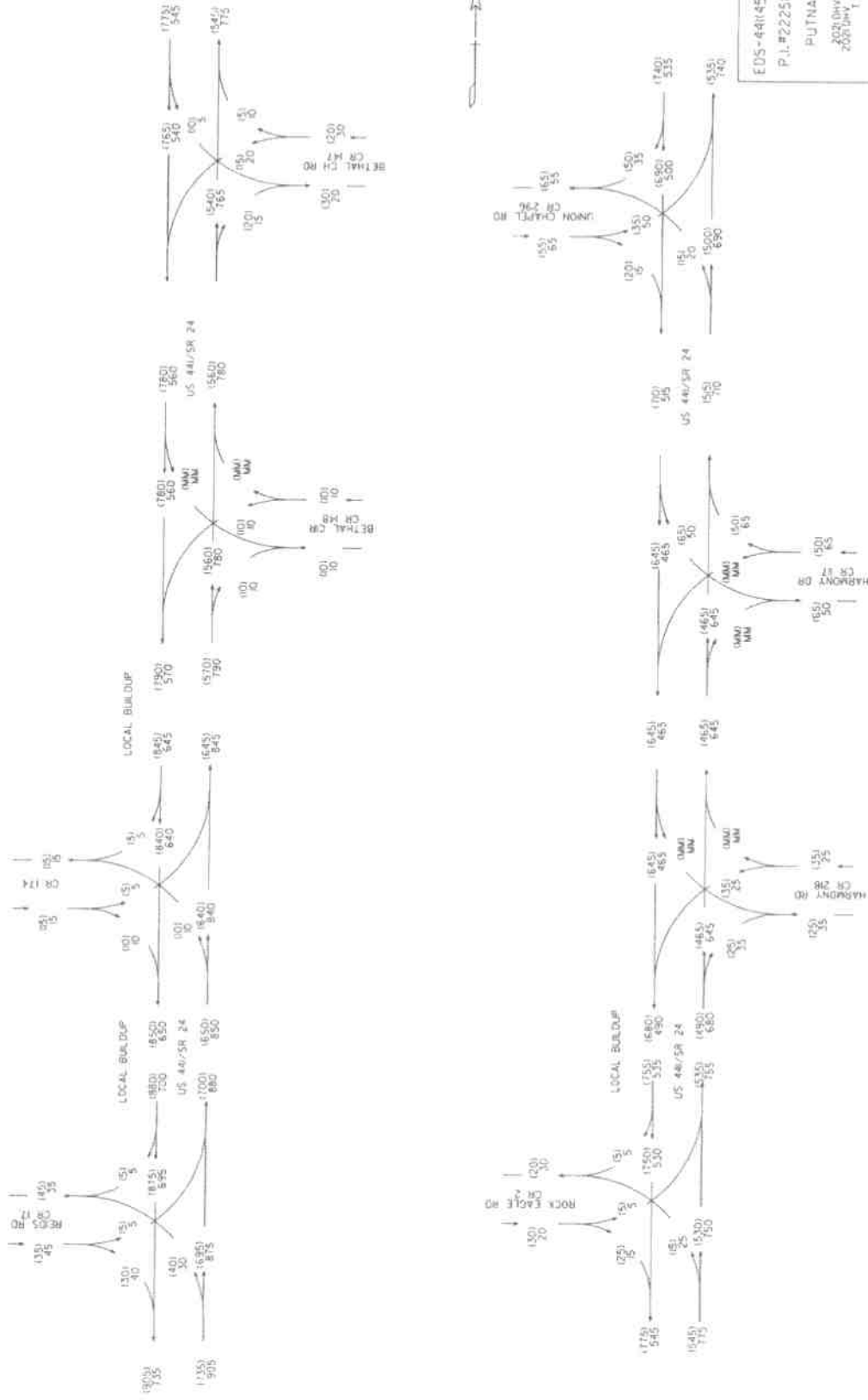
EDS-44H45H4H421
P.J.#222580,70,60
PUTNAM/MORGAN
2000.407 = 000
2000.407 = 000
24 H.T. 1002
Su = 52
COMB = 22

3 OF 6

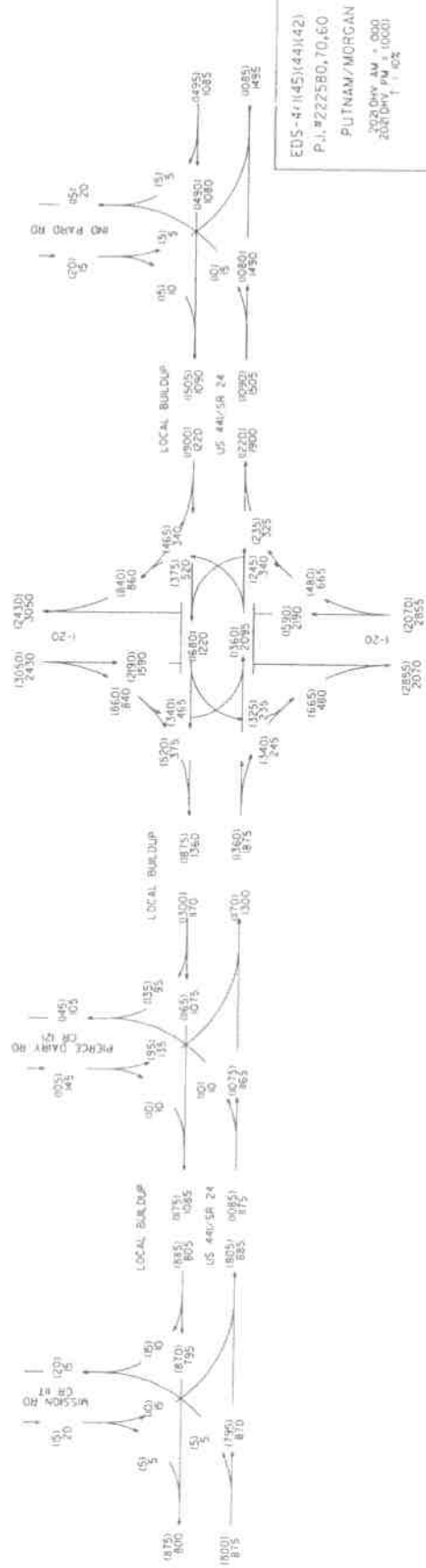
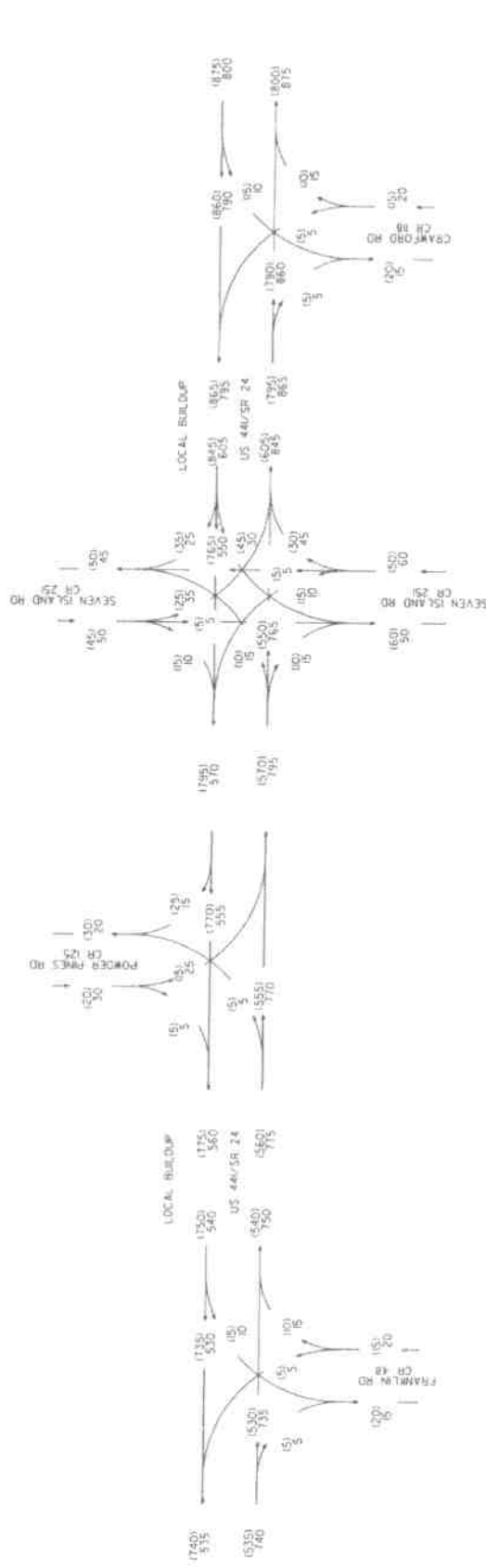


EDS-441451(441421)
P.L.#222580,70,61
OUTNAM/MORGAN
2004.07 - 000
2005.07 - 1000
24 IN 1 - 6.1
SU - 5.2
COMB - 5.2

JUL 2/95



EDS-441(45)(44)(42)
P.L.#222580,70,60
PUTNAM/MORGAN
2001/07/01
1:00:00

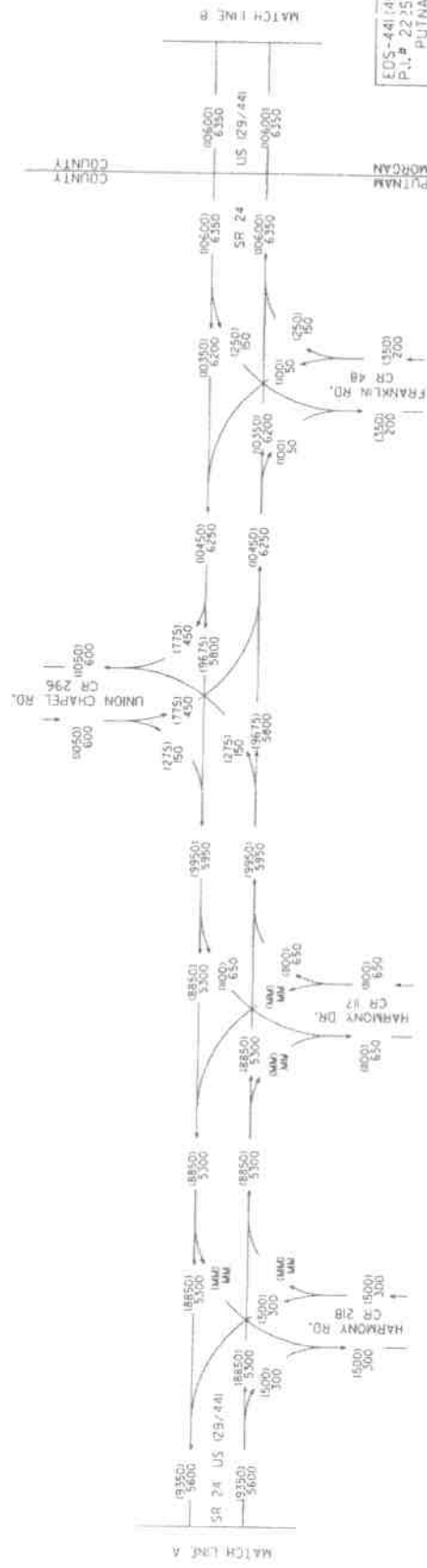
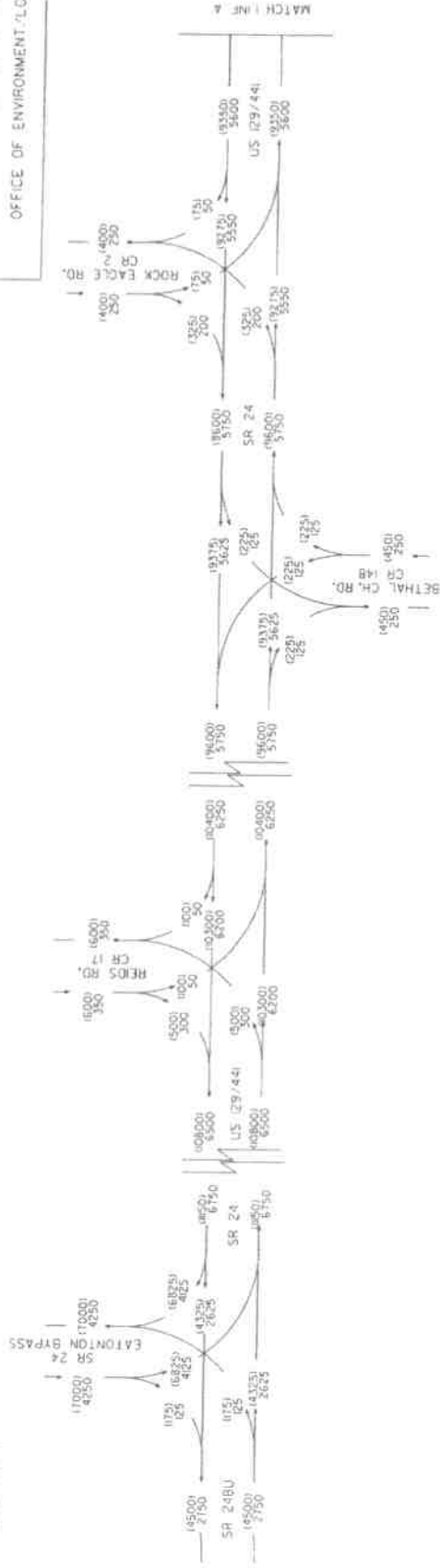


EDS-471(45)(44)(42)
P.J.#222580,70,60
PUTNAM/MORGAN
2020 Rev. 0000
2020 Date: 11/02/02



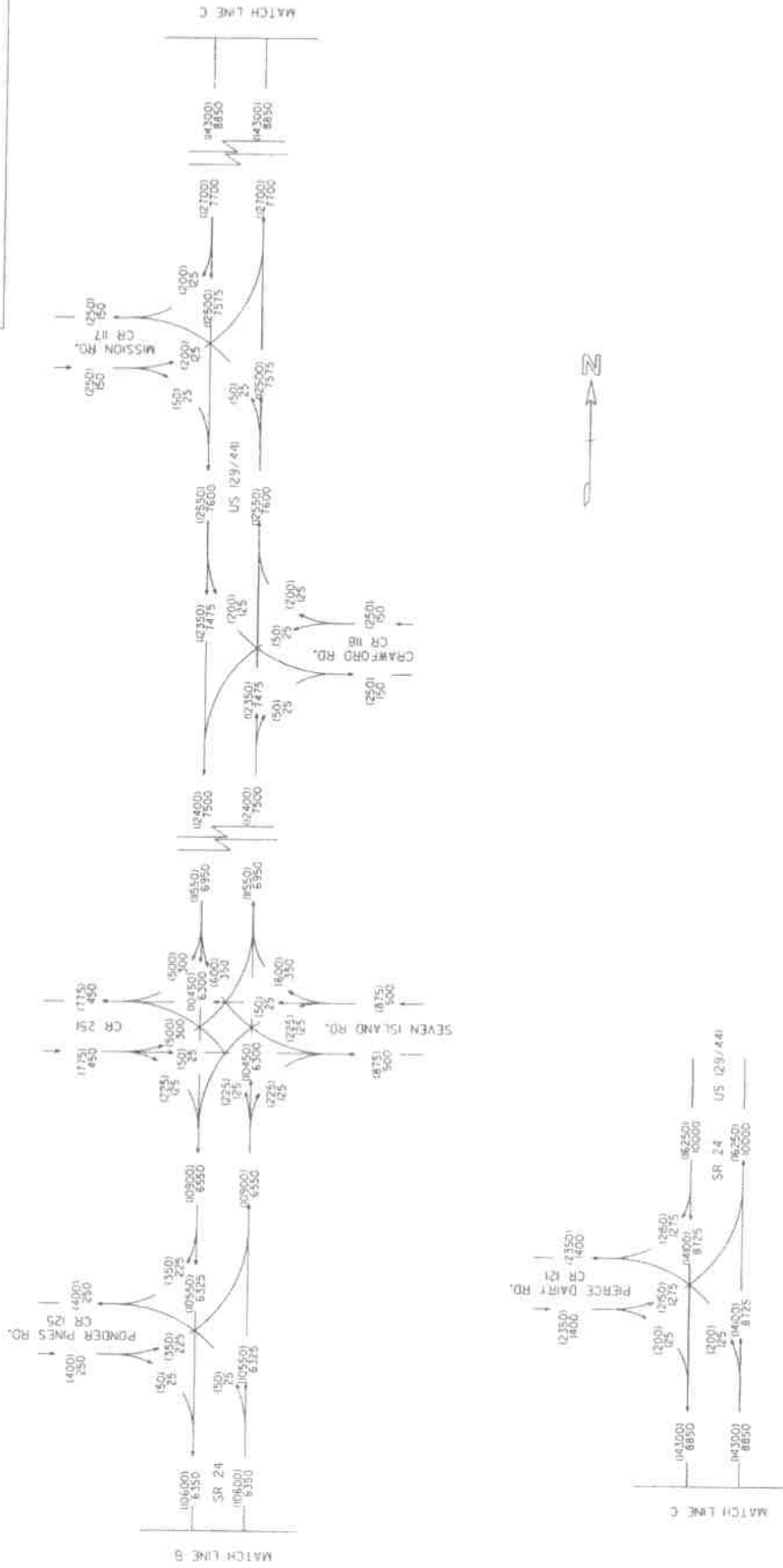
SHEET 1 OF 4

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENT & LOCATION

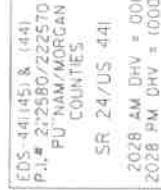


ECOS-441 (45) 8 (44)
P.L. # 222580/222570
PUTNAM/MORGAN
COUNTIES
SR 24/US 441
2008 ADT = 000
2028 ADT = (000)
24 HR. T = 16%
S.L.L. = 5%
C.O.M.B. = 11%

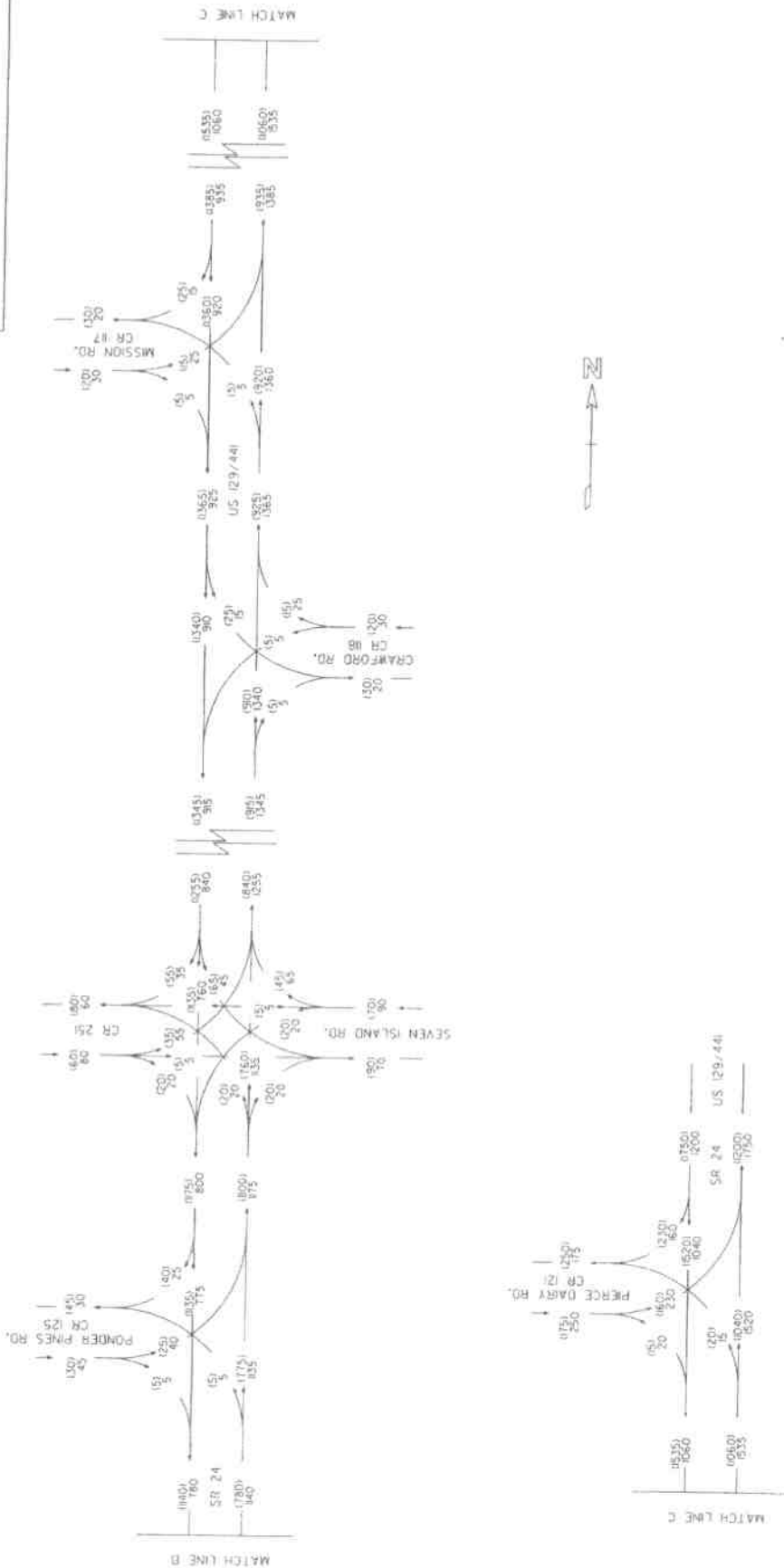
Rd.
1702



EDS-441(45) & (44)
P.L.# 222580/222570
PJTNAM/MORGAN
COUNTIES
SR 24/US 441
2008 ADT = 000
2028 ADT = 1000
24 HR. T = 16%
S.U. = 5%
COMB. = 11%
RCL
7/02

ACCL
T/02





EDS-44(45) & (44)
P.J.# 222580/222570
PUTNAM/MORGAN
COUNTIES
SR 24/US 44
2021 AM DHV = 000
2028 PM DHV = 1000
T = 10%